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PATENT APPLICATION
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LeA 33,061

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION OF)
MICHAEL ZOBEL ET AL) GROUP NO.: 1712
SERIAL NUMBER: 09/890,148)
FILED: AUGUST 27, 2001) EXAMINER: PATRICIA A. SHORT
TITLE: POLYCARBONATE MOLDING)
MATERIALS WITH ANTI-STATIC)
PROPERTIES)

APPEAL BRIEF

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

The present Appeal Brief is submitted in triplicate in support of the Notice of Appeal filed July 12, 2004.

I. REAL PARTY IN INTEREST

The real party in interest for the present Application Serial No. 09/890,148 is Bayer Aktiengesellschaft, of Leverkusen, Germany, by virtue of the assignment executed July 13, 2001, July 17, 2001 and July 31, 2001.

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an enveloped addressed to: Commissioner for Patents, Alexandria, VA 22313-1450

9/10/04

Date

John E. Mrozinski, Jr. - Reg. No. 46,179

Name of applicant, assignee or Registered Representative

Signature

September 10, 2004

Date

II. RELATED APPEALS AND INTERFERENCES

On July 7, 2004, a Notice of Appeal was filed in Application Serial No. 09/890,148. There are no pending appeals or interferences of which Appellants are aware that would be affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF THE CLAIMS

Appellants herewith appeal the final rejection of Claims 2, 3, 5, 7-9, 12 and 13. Claims 2, 3, 5, 7-9, 12 and 13 are pending and stand rejected. Claims 1, 4, 6, 10 and 11 have been canceled. A complete copy of the appealed claims is set forth in the Appendix.

IV. STATUS OF AMENDMENTS AFTER FINAL

An Amendment under 37 CFR § 1.116 was filed on May 13, 2004. In the Advisory Action dated June 4, 2004, the Examiner indicated that the amendment would not be entered as it did not place the claims in condition for allowance because:

of reason of record. Pan (5,274,017) teaches that aluminum oxide flame retardant supported on silica is applied as a colloidal sol. That one of ordinary skill in the art would understand a colloidal sol to include an aqueous (water-containing) colloidal suspension is evidenced by Wang (5,908,663) at col. 5, lines 23-27.

V. SUMMARY OF THE INVENTION

The present invention relates to a thermoplastic molding composition comprising 40 to 99 parts by wt. aromatic polycarbonate, 1 to 30 parts by wt. vinyl copolymer, 0.5 to 60 parts by wt. graft polymer and 0.1 to 30 parts by wt. aluminum compound selected from the group consisting of water-containing oxides, phosphates, sulfates, sulfides, hydroxides, borates and borophosphates of aluminum and having an average particle diameter of 1 nm - 20 μ m.

VI. ISSUES ON APPEAL

The following issue is set forth for consideration by the Board:

1. Whether Claims 2, 3, 5, 7-9, 12 and 13 are rendered obvious, under 35 U.S.C. §103(a) by U.S. Pat. No. 4,937,285 issued to Wittmann et al. in view of U.S. Pat. No. 5,274,017 issued to Pan or U.S. Pat. No. 4,937,285 issued to Wittmann et al. in view of U.S. Pat. No. 5,274,017 issued to Pan taken further with evidence provided by U.S. Pat. No. 5,908,663 issued to Wang et al.

VII. GROUPING OF THE CLAIMS

With respect to the above Issue 1, Appellants admit that Claims 2, 3, 5, 7-9, 12 and 13 stand or fall together.

VIII. ARGUMENT

As will be set forth in detail below, Claims 2, 3, 5, 7-9, 12 and 13 are not rendered obvious under 35 U.S.C. §103(a) by U.S. Pat. No. 4,937,285 issued to Wittmann et al. in view of U.S. Pat. No. 5,274,017 issued to Pan or U.S. Pat. No. 4,937,285 issued to Wittmann et al. in view of U.S. Pat. No. 5,274,017 issued to Pan taken further with evidence provided by U.S. Pat. No. 5,908,663 issued to Wang et al. Accordingly the rejections under 35 U.S.C. §103(a) should be reversed, and favorable action by the Board is respectfully requested.

A. The Invention

The present invention relates to a thermoplastic molding composition comprising 40 to 99 parts by wt. aromatic polycarbonate, 1 to 30 parts by wt. vinyl copolymer, 0.5 to 60 parts by wt. graft polymer and 0.1 to 30 parts by wt. aluminum compound selected from the group consisting of water-containing oxides, phosphates, sulfates, sulfides, hydroxides, borates and borophosphates of aluminum and having an average particle diameter of 1 nm - 20 μ m.

B. The Rejections under 35 U.S.C. §103(a) are Improper

Claims 2, 3, 5, 7-9, 12 and 13 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 4,937,285 issued to Wittmann et al. in view of U.S. Pat. No. 5,274,017 issued to Pan or U.S. Pat. No. 4,937,285 issued to Wittmann et al. in view of U.S. Pat. No. 5,274,017 issued to Pan taken further with evidence provided by U.S. Pat. No. 5,908,663 issued to Wang et al. As will be set forth below, Appellants submit that Claims 2, 3, 5, 7-9, 12 and 13 are not rendered obvious by the cited combination of art and the rejection should be reversed.

1. The Examiner's Rationale

The Examiner has alleged at page 2 of the Final Office Action mailed April 7, 2004, that,

Claims 2, 3, 5, 7-9, 12 and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wittmann (4,937,285) in view of Pan (5,274,017) or Wittmann (4,937,285) in view of Pan (5,274,017) taken further with evidence provided by Wang (5,908,663). Wittman (*sic*) teaches a thermoplastic molding composition comprising aromatic polycarbonate, vinyl copolymer and graft copolymer that has good low temperature impact strength and improved fuel resistance. See example 3. The composition may contain flame retardants. See col. 11, line 40. Pan teaches the use of aluminum oxide having a colloidal particle size of less than 1 micron as a flame retardant for aromatic polycarbonate. The aluminum oxide is applied as a colloidal sol obtained from Nalco Chemical Co. See col. 1, lines 55-62 and examples. In view of Pan teaching aluminum oxide as a colloidal sol having a particle size of less than 1 micron as a flame retardant for aromatic polycarbonate, it would have been obvious to add a water containing aluminum oxide having a particle diameter of less than 1 micron to the aromatic polycarbonate composition of Wittmann in order to improve flame retardance.

Alternatively, as aqueous colloidal sols of aluminum oxide having a particle size of 20nm are commercially available from Nalco, evidence by Wang at col. 5, lines 23-27, in view of Pan teaching aluminum oxide as a colloidal sol having a particle size of less than 1 micron obtained from Nalco as a flame retardant for aromatic polycarbonate, it would have been obvious to use the commercially available aqueous colloidal sol of aluminum oxide having a particle size of 20nm in the aromatic

polycarbonate compositions of Wittmann in order to improve flame retardance.

2. *The Claimed Compositions are Patentably Distinguishable From the Cited Combination of References*

3. Appellants respectfully remind the Board of the Federal Circuit's admonition given in *In re Rouffet*, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453, 1458-9 (Fed. Cir. 1998) that,

To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.

Appellants respectfully contend that the Examiner has failed to do so in the Final Office Action. The only teaching provided by Wittmann et al. at col. 11, line 40, coming at the end of a long "laundry list" of potential ingredients, is that flame retardants, deemed customary additives, may be included in their compositions. Thus, Wittmann et al. provide no teaching, nor direction, nor guidance as to how to select any flame retardant. Further, Pan fails to provide the missing teaching to remedy the deficiencies of Wittmann et al.

Pan discloses aromatic carbonate polymers containing a metal oxide of as a flame retardant. Appellants note that the Examiner has failed to point to where Pan discloses or even suggests inclusion of a vinyl copolymer as is instantly claimed. The flame retardants taught by Pan, at col. 2, lines 21-25, are oxides of aluminum, magnesium, lithium, lanthanum, bismuth or yttrium, with high surface area aluminum oxide supported on silica of colloidal particle size being the most preferred. Appellants aver that the Examiner has failed to point to where Pan contains any teaching or suggestion to utilize the instantly claimed water-containing oxides such as aluminum oxide hydroxide. Appellants also note that the Examiner has failed to

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point to where Pan teaches or suggests aluminum phosphates, aluminum sulfates, aluminum sulfides, aluminum hydroxides, aluminum borates and aluminum borophosphates as is instantly claimed. Further, Wang et al. fails to remedy the deficiencies of Wittmann and Pan.

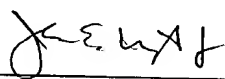
Wang et al. is directed to a topical carpet treatment. Appellants seriously question whether one of ordinary skill in the art of thermoplastic molding would be motivated to consult such a reference when setting out to make a thermoplastic molding composition, even for "evidence" of available aluminum compounds. Further, Appellants aver that the fact that a compound was commercially available is of no consequence to the patentability of a composition including it (i.e., a thermoplastic molding composition) if there is no teaching or suggestion in the art for its inclusion.

Thus, the cited combination of references fails to render obvious Claims 2, 3, 5, 7-9, 12 and 13 and therefore the rejection under 35 U.S.C. §103(a) should be reversed

IX. Conclusions

Therefore, for the reasons set forth above, the rejections of Claims 2, 3, 5, 7-9, 12 and 13 under 35 U.S.C. §103(a) are erroneous and the Board's reversal of those rejections is respectfully requested.

Respectfully submitted,

By 
John E. Mrozinski, Jr.
Attorney for Appellants
Reg. No. 46,179

Bayer MaterialScience LLC
100 Bayer Road
Pittsburgh, Pennsylvania 15205-9741
(412) 777-3024
FACSIMILE PHONE NUMBER:
(412) 777-3902

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APPENDIX

2. The thermoplastic molding composition according to Claim 5, wherein the average particle diameter of the compound is 1 nm - 10 μ m.
3. The thermoplastic molding composition according to Claim 5, wherein the average particle diameter of the compound is 5-500 nm.
5. A thermoplastic molding composition comprising:
 - 40 to 99 parts by wt. aromatic polycarbonate;
 - 1 to 30 parts by wt. vinyl copolymer;
 - 0.5 to 60 parts by wt. graft polymer; and
 - 0.1 to 30 parts by wt. aluminum compound selected from the group consisting of water-containing oxides, phosphates, sulfates, sulfides, hydroxides, borates and borophosphates of aluminum and having an average particle diameter of 1 nm - 20 μ m.
7. A thermoplastic molding composition comprising:
 - 40 to 99 parts by wt. aromatic polycarbonate;
 - 1 to 30 parts by wt. vinyl copolymer;
 - 0.5 to 60 parts by wt. graft polymer which is a product of copolymerization of
 - 5 to 95 parts by wt. of a mixture of
 - 50 to 95 parts by wt. styrene, α -methylstyrene, styrene substituted on the nucleus by halogen or alkyl, C₁-C₈-alkyl methacrylate, C₁-C₈-alkyl acrylate or mixtures thereof, and
 - 5 to 50 parts by wt. acrylonitrile, methacrylonitrile, C₁-C₈-alkyl methacrylate, C₁-C₈-alkyl acrylate, maleic anhydride, C₁-C₄-alkyl or phenyl-N-substituted maleimide or mixtures thereof or 5 to 95 parts by weight of a polymer having a glass transition temperature below -10°C; and
 - 0.1 to 30 parts by wt. aluminum compound selected from the group consisting

of water-containing oxides, phosphates, sulfates, sulfides, hydroxides, borates and borophosphates of aluminum and having an average particle diameter of 1 nm - 20 μ m.

8. The thermoplastic molding composition of Claim 5 further including at least one additive selected from the group consisting of stabilizers, pigments, mold release agents, flow auxiliaries and antistatics.
9. The thermoplastic molding composition of Claim 5 further including at least one additive selected from the group consisting of fillers, reinforcing materials and inorganic compounds.
12. In a method of producing a molded article, the improvement comprising including the thermoplastic molding composition of Claim 5.
13. The molded article prepared by the method of Claim 12.



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FILED: AUGUST 27, 2001)	
)	
TITLE: POLYCARBONATE MOLDING)	
MATERIALS WITH ANTI-STATIC)	
PROPERTIES)	

LETTER

Assistant Commissioner for Patents
Washington, D.C. 20231
Sir:

Enclosed herewith are three copies of an Appeal Brief in the matter of the subject Appeal. Please charge the fee for filing the Brief, \$330.00, to our Deposit Account Number 13,3848.

Respectfully submitted,

By: John E. Mrozinski, Jr.
John E. Mrozinski, Jr.
Attorney for Appellants
Reg. No. 46,179

Bayer MaterialScience LLC
100 Bayer Road
Pittsburgh, Pennsylvania 15205-9741
(412) 777-3024
FACSIMILE PHONE NUMBER:
(412) 777-3902
jdg/mrozinski/jem13

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an enveloped addressed to: Commissioner for Patents, Alexandria, VA 22313-1450 9/10/04
Date

John E. Mrozinski, Jr. - Reg. No. 46,179
Name of applicant, assignee or Registered Representative

John E. Mrozinski, Jr.
Signature

September 10, 2004
Date